

## ***REVISION C***



# **Coordinating SMA Participation in the International Space Station CoFR Process**

A handwritten signature in black ink that reads "Bryan O'Connor". The signature is fluid and cursive, with a long horizontal stroke at the end.

Bryan O'Connor  
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March 31, 2004  
Date

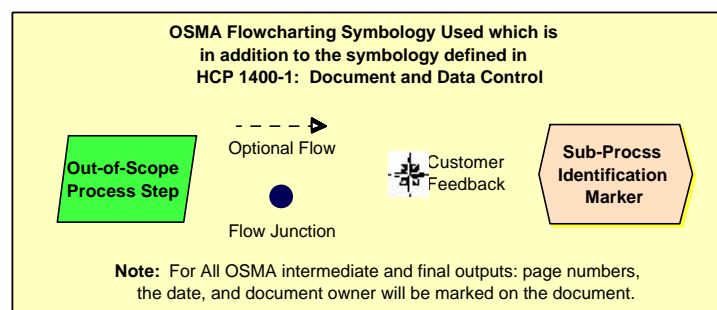
## DOCUMENT HISTORY LOG

Status (Draft/ Baseline/ Revision/ Canceled)	Document Revision	Effective Date	Description
Baseline		January 13, 2000	
Revision	A	April 14, 2000	Editorial corrections to Section 5 Flowchart, and references 4.3 and 4.7; modified step 6.07.
	B	February 1, 2002	Added customer list, customer feedback to sections 5 and step 6.10.
	C	March 31, 2004	Editorial and organizational changes to all sections.

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OSMA Staff Members Responsible for this HOWI: QE/Pete Rutledge

Customers for this HOWI: Internal: AA/SMA, AA/OSF  
External: none



## 1. Purpose

The purpose of this Office of Safety and Mission Assurance (OSMA) Headquarters Office Work Instruction (HOWI) is to document the process for the Safety and Mission Assurance participation in the International Space Station (ISS) Certification of Flight Readiness (CoFR) Process. The OSMA plays a key role in the review of the ISS program for safety, since the Associate Administrator for Safety and Mission Assurance (AA/SMA) is a required signature of the CoFR, per SSP 50108. This OSMA HOWI provides the flowchart and steps of preparing for and participating in the ISS CoFR as well as establishing the associated quality records.

## 2. Scope and Applicability

This OSMA HOWI is applicable to the OSMA staff that are assigned to perform tasks within the OSMA CoFR process. This HOWI will assist in ensuring that the involved staff performs a quality assessment of the ISS mission assurance. The process is repeated for each ISS launch and mission.

## 3. Definitions

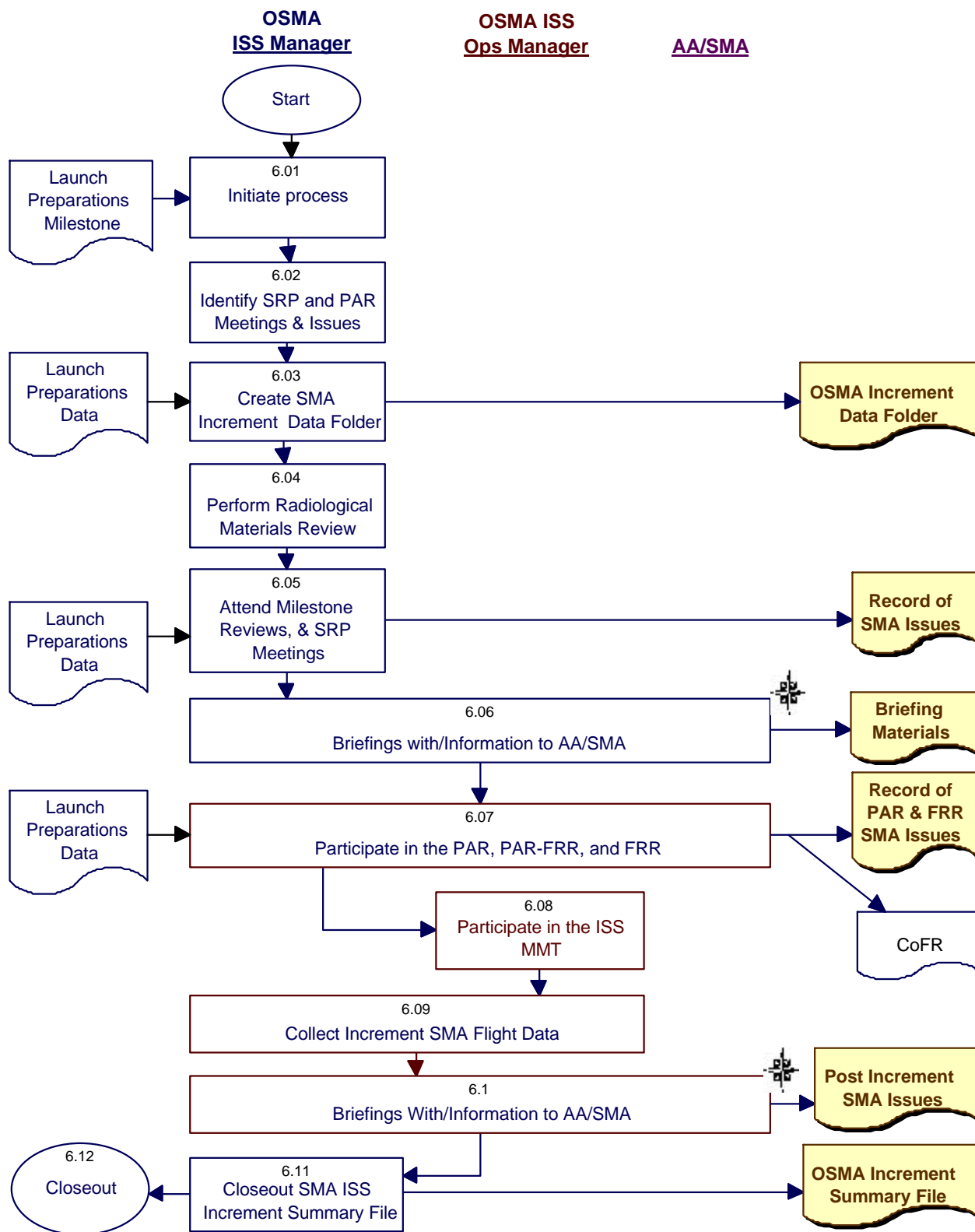
- 3.1. AA/SMA: Associate Administrator for Safety and Mission Assurance
- 3.2. CoFR: Certification of Flight Readiness
- 3.3. FRR: Flight Readiness Review
- 3.4. ISS: International Space Station
- 3.5. ISS Increment: The period of time from when the Space Shuttle arrives at the ISS until its next arrival on a following flight.
- 3.6. MMT: Mission Management Team
- 3.7. NFSAM: Nuclear Flight Safety Assurance Manager
- 3.8. NLSA: Nuclear Launch Safety Approval
- 3.9. PAR: Prelaunch Assessment Review
- 3.10. SRP: Safety Review Panel
- 3.11. SSP: Space Shuttle Program

## 4. Reference Documents

The documents listed in this section are used as reference materials for performing the processes covered by the Quality Management System (QMS). Since all NASA Headquarters Level 1 (QMS Manual) and Level 2 (Headquarters Common Processes) documents are applicable to the QMS, they need not be listed in this section unless specifically referenced in this OSMA HOWI.

- 4.1. [NPR 8715.3: NASA Safety Manual](#)
- 4.2. ISS Management Directive, *International Space Station Safety Review Panel (SRP) Charter*, November 1995.
- 4.3. NSTS 22778, *Space Shuttle Program Safety, Reliability, and Quality Assurance Commit-To-Flight Assessment Review Process Operating Plan*  
NOTE: Change 1 of October 21, 1997, added the requirement.
- 4.4. SSP 30599, *Safety Review Process* ( <http://www.jsc.nasa.gov/srp/document.html> )
- 4.5. SSP 50231, *Safety and Mission Assurance Certification of Flight Readiness Implementation Plan*.
- 4.6. SSP 50108, *ISS Certification of Flight Readiness Process Document*.  
( <http://iss-www.jsc.nasa.gov/cgi-bin/dsqt/orap?-h+docnco/+73387> )
- 4.7. [Safety and Mission Assurance Agreement for Space Flight Enterprise](#)

## 5. Flowchart



## 6. Procedure

### 6.01 OSMA ISS Mngr Initiate Process:

The OSMA ISS Manager identifies that a milestone review for a given mission is coming up. Additional guidance in preparing for the missions is given in references 4.2 through 4.7. Open issues from the previous increments are brought forward as open issues on the next ISS increment.

### 6.02 OSMA ISS Mngr Identify SRP and PAR Meetings and Issues:

The OSMA ISS Manager reviews the available on-orbit ISS status, ISS flight element data, and Safety Review Panel (SRP) meeting data. From this review, any SMA issues are recorded. OSMA ISS Manager is a panel member of the SRP per the ISS SRP Charter.

### 6.03 OSMA ISS Mngr Create SMA Increment Data Folder:

Prepare a data folder to collect appropriate risk information for a given mission.

### 6.04 OSMA ISS Mngr Perform Radiological Materials Review:

The OSMA ISS Manager reviews the vehicle and payload data to determine if ANY radiological materials will be present at launch. If there are radiological materials planned, the OSMA Nuclear Flight Safety Assurance Manager (NFSAM) is contacted. HOWI 8710-Q014 is used in accordance with NPG 8715.3 Chapter 5. The Shuttle Ops SMA Manager will remain in contact with the NFSAM to assist in the obtaining of Nuclear Launch Safety Approval (NLSA).

### 6.05 OSMA ISS Mngr Attend Milestone Reviews, PARs, and SRP Meetings:

Attend the milestone reviews which will impact the SMA of the mission and file information on issues and record/update concerns in the mission folder:

1. Independent Assessment Readiness Review,
2. SMA Readiness Review (per SSP 50231),
3. Launch Package Readiness Review (per SSP 50108),
4. ISS Operations Readiness Review (per SSP 50108),
5. Prelaunch Assessment Review (PAR). The agenda is coordinated through the OSMA from participation in weekly PAR-5 teleconferences.
6. ISS SRP meetings (per SSP 30599). Evaluate data presented regarding affect on the overall ISS risk posture and file information in mission folder:
  - New or modified Hazard Reports,
  - Safety issues and concerns.

**Note:** There may be additional or multiples of reviews associated with a mission other than those listed above.

### 6.06 OSMA ISS Mngr Briefing with/Information to AA/SMA:

Periodic electronic and verbal notes are prepared and sent to AA/SMA and Deputy AA/SMA on issues and concerns with the upcoming increment. The information is added to the mission folder.

6.07 AA/SMA, OSMA ISS Mngr & ISS Ops Mngr: Participate in the PAR teleconference, PAR-Flight Readiness Review (FRR), and the FRR:

The AA/SMA participates (normally via telecon) in the:

- PAR teleconference and PAR-Flight Readiness Review (FRR) Tag-Up teleconference in accordance with NSTS 22278.
- ISS FRR Board as a member, to attest to the readiness for flight via concurrence signature on the Certification of Flight Readiness in accordance with SSP 50108. If any of the ISS FRR Board members disagree with the readiness for flight, then this step will repeat with appropriate actions taken until all members can agree on readiness for flight. At that time, the AA/SMA will sign the CoFR.

**Note:** The AA/SMA may designate the Deputy AA/SMA for some reviews/missions.

The OSMA ISS Manager also participates with the AA/SMA to provide real-time assessment of information to the AA/SMA, as required.

**Note:** There may be additional or multiples of reviews associated with a mission other than those listed above.

6.08 ISS Ops Mngr: Participate in the ISS MMT Review:

The ISS Operations SMA Manager participates via telecon during the mission increment MMT Review and identifies SMA issues to the AA/SMA. The ISS Operations SMA Manager also provides assessment of the issues and concerns raised during the meeting for the AA/SMA.

6.09 OSMA ISS Mngr & ISS Ops Mngr: Collect SMA Flight Increment Data:

Collect and file all SMA increment issue data collected during the ISS increment in the designated mission folder.

6.10 OSMA ISS Mngr & ISS Ops Mngr: Briefing with/Information to AA/SMA:

Periodic electronic and verbal notes are prepared and sent to AA/SMA and Deputy AA/SMA on issues and concerns with the ongoing increment. The information is added to the mission folder.

6.11 OSMA ISS Mngr Closeout the OSMA ISS Increment Summary File:

Any questions raised by the AA/SMA are researched and answered, the SMA Mission Summary file is reviewed, duplicate and outdated materials are removed, and the file is finalized.

6.12 OSMA ISS Mngr Closeout:

The OSMA ISS Manager ensures that all Quality Records and lessons learned are filed, and then closes out the process.

## 7. Quality Records

Record ID	Owner	Location	Media Electronic /hardcopy	Schedule Number & Item Number	Retention & Disposition
OSMA Increment Data Folder	OSMA ISS Mngr	Code QE files	Hardcopy	Schedule: 1 Item: 1.120.E	Keep until no longer has reference value then destroy when 15 years old
Record of SMA Issues	OSMA ISS Mngr	Code QE files	Hardcopy	Schedule: 1 Item: 1.120.E	Keep until no longer has reference value then destroy when 15 years old
Briefing Materials	OSMA ISS Mngr	Code QE files	Hardcopy	Schedule: 1 Item: 1.120.E	Keep until no longer has reference value then destroy when 15 years old
Record of PAR & FRR SMA Issues	OSMA ISS Mngr	Code QE files	Hardcopy	Schedule: 1 Item: 1.120.E	Keep until no longer has reference value then destroy when 15 years old
Post Increment SMA Issues	OSMA ISS Mngr	Code QE files	Hardcopy	Schedule: 1 Item: 1.120.E	Keep until no longer has reference value then destroy when 15 years old
OSMA Increment Summary File	OSMA ISS Mngr	Code QE files	Hardcopy	Schedule: 1 Item: 1.120.E	Keep until no longer has reference value then destroy when 15 years old

**\*\* Note:** When Post Mission SMA Issues are filed, duplicates from other Quality Records may be destroyed and files combined \*\*